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|-----------|--------|-------------------|
| 4,381,552 | 4/1983 | Nocilini et al. . |
| 4,458,307 | 7/1984 | McAnlis et al. .  |
| 4,461,003 | 7/1984 | Tamaki .          |

4,506,323	3/1985	Pusic et al. .
4,523,295	6/1985	Zato .

- FOREIGN PATENT DOCUMENTS

53-22345 3/1978 Japan

## OTHER PUBLICATIONS

- Zenith Data Systems Corporation, MiniSport HD Owner's Manual, pp. 6-1 through 6-3, 1990.

CLEMENTS, Alan; "Microprocessor Systems Design", 1987, Title pages and p. 117, 246, 247, 353, 354, PWS-Kent Publishing Company, Boston.

Microsoft, MD-DOS, User's Guide, 1986, Title Pages and p. 245.

IBM System/360 Principles of Operation, Eighth Edition  
(Sep., 1968) Title Pages and pp. 68-83.

Toshiba T1600 "User's Manual" 2d ed.; Title page, pp. 2-1 to 2-3, and pages 2-8 to 2-11, 1987.

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### Related U.S. Application Data

- [57]
- ABSTRACT**

- A laptop computer system includes a protected mode microprocessor capable of operating in restricted and unrestricted modes, and an arrangement which in response to a predetermined condition saves information from the processor and then forcibly switches the processor to its unrestricted mode of operation. The system includes a first interrupt mask register having a bit for indicating whether an interrupt is to be recognized by the processor, a second interrupt mask register having a bit for indicating whether the interrupt is to be recognized by a further circuit, and an arrangement responsive to a load of the first mask register for conforming the bit of the second mask register to the bit of the first mask register in a manner invisible to an application program being executed by the processor.

- 9 Claims, 171 Drawing Sheets**

- ## [56] References Cited

## U.S. PATENT DOCUMENTS

- |           |         |            |           |
|-----------|---------|------------|-----------|
| 3,676,861 | 7/1972  | Ruth ..... | 340/172.5 |
| 4,294,496 | 10/1981 | Murez .    |           |
| 4,317,180 | 2/1982  | Lies .     |           |

